

Expressed and Measured Vocational Interests: Distinctions and Definitions*

By: Paul J. Silvia

[Silvia, P. J.](#) (2001). Expressed and measured vocational interests: Distinctions and definitions. *Journal of Vocational Behavior*, 59, 382-393. doi:10.1006/jvbe.2001.1805

Made available courtesy of Academic Press (part of Elsevier Publishing):

http://www.elsevier.com/wps/find/journaldescription.cws_home/622908/description

*****Note: Figures may be missing from this format of the document**

Abstract:

A conceptual look at the distinction between expressed and measured interests is undertaken. Instead of denoting two different aspects of “vocational interests,” expressed and measured interests refer to distinct psychological constructs. Expressed interests are specific intentions and measured interests are what people conventionally mean by “vocational interests.” Using research on how intentions and attitudes predict behavior, I suggest an explanation for why expressed interests have and will always better predict career choice. This analysis concludes that the terms “expressed” and “measured” should be reconsidered—using parallel terms for different concepts obscures important differences and can create unproductive problems.

Key Words: interests; intentions; vocations; career choice.

Article:

Vocational psychologists have distinguished between “expressed” and “measured” interests for quite some time (e.g., Darley & Hagenah, 1955; Dolliver, 1969) and continue to find the distinction worthwhile (Crites, 1999; Spokane & Decker, 1999). Expressed interests are often defined as responses to direct questions such as “Which occupation do you intend to enter when you leave school?” (Crites, 1999, p. 164)—they are essentially idiosyncratic, nonscaled, and idiographic responses. Measured interests, in contrast, are represented by responses to a comprehensive interest inventory; they are occasionally called “inventoried interests.” Such responses are thus normative, scaled, and nomothetic with regard to the scores of other respondents (Lamiell, 1987).

Yet there has also always been some uneasiness concerning how expressed and measured interests relate to actual vocational choice—their predictive abilities are surprising. Simple expressed interests eclipse complex interest inventories when predicting the careers that people eventually select (Dolliver, 1969; Spokane & Decker, 1999). Perhaps more vexing, the two constructs do not always agree within the person. Expressed interests are usually incongruent with inventory scores; sometimes the congruence rate is as low as 30% (Borgen & Seling, 1978). This state of affairs is understandably troubling. Years of effort go into creating interest inventories—one would naturally hope that highly sophisticated measurement tools would work better than single-item measures.

I do not review the research findings here; Spokane and Decker (1999) provide a comprehensive and contemporary review. Instead, I tease apart the various meanings and models of the expressed/measured distinction. A conceptual analysis that relates this research to broader psychological ideas is needed. Without a theoretical understanding of expressed and measured interests, it is hard to explain the surprising findings or even to know why we ought to be surprised. As Spokane and Decker (1999) argue,

[A] problem lies in our failure to relate constructs such as expressed and measured interests, which derive from increasingly sophisticated measurement techniques, to theories and models of social and cognitive psychology. The result is that although we can

* Thanks are due to the LS Sozialpsychologie at the University of Erlangen, Germany, for hosting me during the writing of this article.

observe what happens when expressed and measured interests disagree, we cannot explain why the resulting behavior should be the case. Thus we have measurement procedures for which no theoretical explanations exist (p. 228).

In the spirit of this charge, I will redefine and ultimately dissolve the expressed/ measured distinction using social-psychological research on predicting behavior from attitudes and intentions.

First, however, we need to appraise prior conceptualizations. Past writings typically construe the two interests as resting on different points of a continuum, such as one ranging from directly to unobtrusively measured or another ranging from conceptually to criterion-based (Spokane & Decker, 1999). After examining these views, I propose that “expressed” and “measured” interests refer to quite different constructs—expressed interests are specific vocational intentions and measured interests are vocational interests. Their different predictive power reflects psychometric principles regarding abstract predictors and single-act criteria.

EXPRESSED AND MEASURED INTERESTS REFLECT THE SAME LATENT CONSTRUCT

Expressed and measured interests clearly differ in some way, but what exactly differs? Several descriptive models have been suggested. The most basic categorization that underlies them is whether (a) expressed and measured interests are said to reflect a single latent construct or (b) expressed and measured interests are said to reflect conceptually distinct constructs. Variants of Model A are considered first; I then argue for the utility of Model B.

There are many ways in which two concepts can be said to constitute a more general concept (Griffiths, 1997; Sterelny & Griffiths, 1999). The top panel of Fig. 1 shows one way in which vocational interests—the general concept—could be comprised by expressed and measured interests. In this model, expressed and measured interests are “conceptually equal,” which only means that they exist at the same level of generality. As two equal aspects of vocational interests, neither could be said to be more prototypical or central to the conceptualization of vocational interests. Several taxonomic justifications for splitting expressed and measured

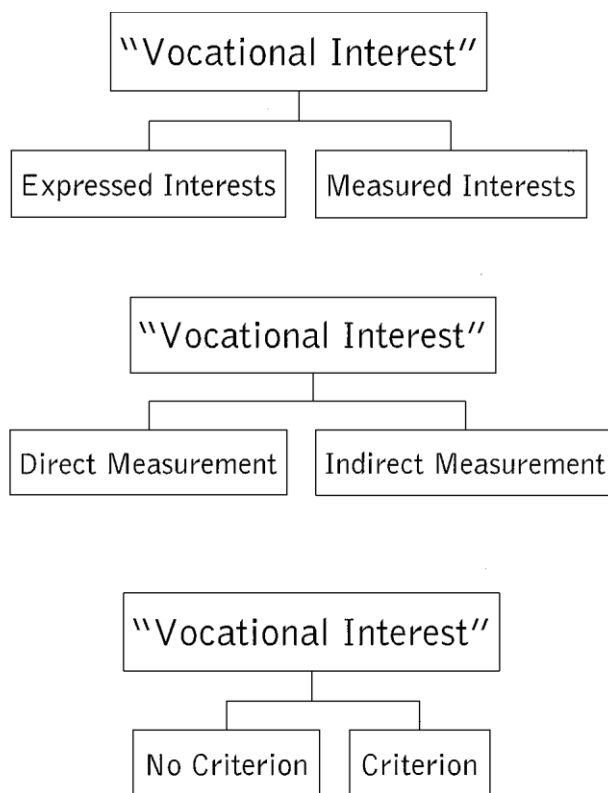


FIG. 1. Expressed and measured interests as two aspects of “vocational interest” concept.

interests can be proposed. The middle and bottom panels of Fig. 1 show two suggestions raised by Spokane and Decker (1999). In the middle panel, both reflect vocational interests but differ in the directness of their measurement. In the bottom panel, expressed and measured interests differ in the use of a measurement criterion.

Conceptually Equal Models

Direct versus indirect measurement. One model of the expressed–measured distinction proposes that they differ in terms of how they were measured (Spokane & Decker, 1999). While both reflect the same underlying construct of “vocational interest,” an expressed interest is directly measured, whereas a measured interest is indirectly measured (see Fig. 1, middle panel). Indirect (or unobtrusive) measurement assesses some property in a manner that minimally impinges on the phenomenon’s natural structure or process (Campbell, 1950). It is generally conceived as a continuum, ranging from entirely unobtrusive (such as covert observational research or certain archival methodologies) to cases in which the research participant realizes the nature and logic of the measure.

Expressed interests are certainly measured more directly than measured interests—you cannot be more obvious than baldly asking someone, “What career do you intend to pursue?” But measured interests are also very direct because unobtrusiveness implicates and derives from the *entire measurement context*, not simply from the specific items to which the person responds. Consider a person actively seeking vocational counseling who requests or agrees to take an inventory described as giving insight into her vocational preferences. I would be surprised if she failed to connect the specific items with the inventory’s explicit aim of assessing vocational preferences. The items themselves might be more elliptical, but the measure’s broader purpose is transparent. Measured interests can only be truly indirect if the counselor were to deceive the client concerning the inventory’s true purpose. Using interest inventories in different contexts—such as a counseling versus a research context—would thus change the directness of the items. Typical research on nonclient populations is probably more indirect.

But this is a technical point that is ultimately moot. The primary limitation of the direct/indirect model is that it does not explain our datum—why the interests differentially predict job choice. It cannot in principle explain this because the type of measurement has no necessary relation to a predictor’s ability to account for statistical variance. Stated differently, neither direct nor indirect assessment will be more predictive or less biased. For example, indirect measures of racism are often more predictive of racist action than direct questionnaires of racial attitudes (Biernat & Crandall, 1999). Yet in other cases the direct measure is more predictive, such as when self-reported personality traits better predict behavior than indirectly measured expressive activity (Allport, 1961).

In sum, expressed and measured interests differ in the directness of common measurement techniques (Spokane & Decker, 1999), although the absolute level of unobtrusiveness is never very high. Yet this distinction does not explain what we want to explain because measurement methods do not necessarily relate to predictive power.

Criterion-based versus non-criterion-based measurement. A second model of the expressed–measured distinction proposed by Spokane and Decker (1999) is whether the measurement process involves a criterion (see Fig. 1, bottom panel):

“Stated simply, the term *measured interests* refers to the empirically keyed scores generated by a reliable and valid criterion-based inventory as compared with *expressed interests*, which refer to non-criterion-based inquiries such as direct questions” (p. 214).

This distinction is said to overlay the direct/indirect distinction discussed above: criterion-based inventories employ indirect measurement, whereas non-criterion-based measures employ direct measurement.

A problem with this approach is its restrictive view of criterion-based measurement. It clearly refers to *normative* measurement, which is the dominant assessment paradigm in individual-differences research

(Lamiell, 1987). In this method, the responses of one person are compared against a distribution of responses provided by other people. The distribution of others thus serves as the criterion for making determinations about the target response. So if we want to know if someone is neurotic, we simply have him or her fill out a scale and then locate his or her response within the population distribution of neuroticism. As the scale value increases, we are more likely to assert that he or she is neurotic. This same measurement logic underlies many interest inventories.

But there are two other measurement criteria that could be used. The first is *ipsative* measurement, in which a person's past responses serve as the criterion for making determinations of present behavior (Lamiell, 1987). Expressed interests could be assessed several times; a present expressed interest could then be gauged against the distribution of past responses. The second alternative is *idiothetic* (also known as interactive) measurement (Lamiell, 1981, 1987). This involves comparing a person against his or her idiosyncratic *range* of values. One might, for example, directly ask someone to what extent he or she intends to pursue a certain career and then ask about the strength of his or her intention relative to how strong or weak his or her intention *could be*.

Ipsative and idiothetic measurement strategies are probably less useful for vocational assessment compared to the normative strategy. In fact, one basic purpose of many interest inventories is to provide a person with some sort of distributional, extrapersonal information, such as how his or her preferences align with those of persons in different occupations. The point is that expressed interests are also criterion-based judgments—they simply have intraindividual criteria. So this is not the thing that differentiates expressed and measured interests. One could, of course, simply amend the statement quoted earlier to note that measured interests have normative criteria and expressed interests do not. Yet this would not avoid the criticism because it is not inherent in the nature of an interest inventory to use normative measurement. Indeed, vocational card sort inventories rely on ipsative and idiographic measurement and could be said to constitute a form of interest inventory, although this is controversial (Goldman, 1995; Hartung, 1999; Slaney & Croteau, 1995).

Given the independent problems of the criterion/no-criterion distinction and the direct/indirect distinction, it should be no surprise that they overlay poorly. Stated briefly, there is no contingent relation between how a variable is measured (directly or unobtrusively) and whether the data are analyzed in a normative, ipsative, or idiothetic way. A researcher could measure an emotion directly (questionnaire) or indirectly (covert observation of facial expressions) and then analyze the data relative to the emotions of others (normative), the person's own past experiences (ipsative), or the person's range of maximal and minimal emotionality (idiothetic). These are independent judgments that the researcher must make depending on the problem being studied. It is unproductive to identify indirectly measured variables with normative-criterion-based statistical procedures; the two dimensions are distinct.

So the criterion/no-criterion distinction appears to be conceptually problematic. And, ultimately, it does not explain why expressed interests better predict career choice. Why should the presence or absence of a normative criterion have such dramatic effects? Why should the measurement type have any relation to predictive power?

Conceptually Unequal Models

One could also argue that expressed and measured interests reflect "vocational interests" but they are conceptually unequal—one concept is superordinate to the other in some conceptual scheme. The top panel of Fig. 2 shows the basic structure of such a claim. Both expressed and measured interests are aspects of vocational interests, but expressed interests are taxonomically subordinate to measured interests. Yet despite their hierarchical positions, both can properly be said to reflect "vocational interests." The bottom panel of Fig. 2 fleshes this out with other concepts. (I should note that the actual concepts and structure are used very loosely for illustration purposes and are not an empirical or conceptual claim.)

I am unaware of past conceptualizations of expressed and measured interests that use this conceptual structure. One could easily construct one, however, perhaps by arguing that vocational interests are partially composed of

preferences (measured interests), which are themselves partially composed of intentions (expressed interests). To argue against this approach, one must show that expressed and measured interests are sufficiently different in their origins and consequences.

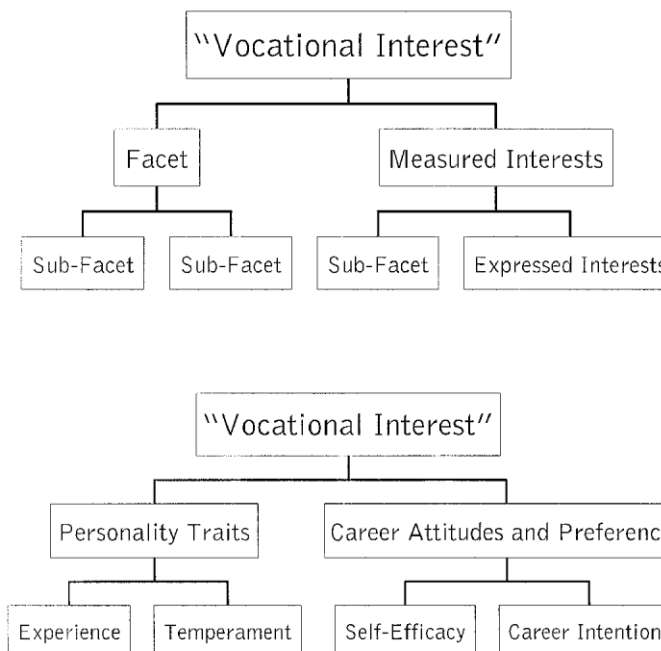


FIG. 2. Expressed and measured interests as two “unequal” aspects of vocational interest.

Such evidence would suggest that they should be reorganized into a different taxonomic relationship (Sterelny & Griffiths, 1999). This is the task of the following section.

EXPRESSED AND MEASURED INTERESTS REFLECT DIFFERENT CONCEPTS

Arguing that expressed and measured interests are conceptually distinct constructs requires us to entertain alternative names for the terms. Sometimes enduring problems are so recalcitrant because the meanings surrounding the terminology channel thinking in particular directions. For “measured interests” we’ll substitute “vocational interests.” This is not terribly controversial—measured interests are usually operationally and conceptually defined as responses to vocational interest inventories (e.g., Crites, 1999; Spokane & Decker, 1999). For “expressed interests” we substitute “vocational intentions.” This might seem more controversial, but if an expressed interest is measured with the question, “What career do you intend to pursue?” (Crites, 1999)—the same wording used by intention researchers (Ajzen & Fishbein, 1980)—then the “vocational intention” label seems reasonable.

I suggest conceiving of expressed and measured interests within the framework shown in Fig. 3. In the other figures, expressed and measured interests were both aspects of the superordinate “vocational interests” concept. Figure 3 relates vocational intentions (expressed interests) horizontally with vocational interests (measured interests). In this framework, expressed and measured interests influence each other, but they cannot both be said to be aspects of “vocational interests.” Expressed interests are seen as conceptually distinct. Justifying this argument requires a look at how intentions and general preferences relate.

Psychologists who study attitudes have distinguished between intentions and attitudes for quite some time. Attitudes are seen as affective responses related to an object or activity (Heider, 1958)—they involve positive or negative feelings and are sometimes equated with preferences. Intentions, in contrast, refer to choices and decisions related to anticipated activities (Ajzen & Fishbein, 1980).

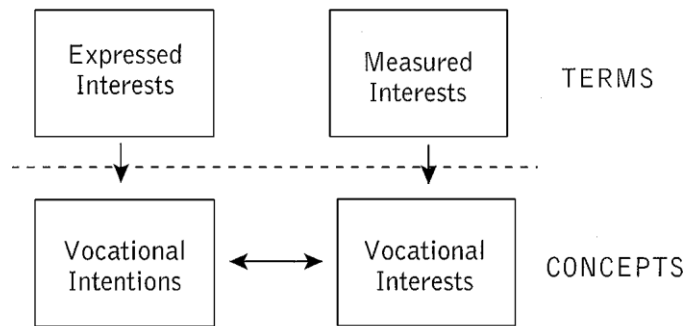


FIG. 3. Expressed and measured interests as terms for different concepts.

Attitudes can influence intentions, such as when liking something leads one to intend to do it. Intentions can also influence attitudes, such as when intending to do a counterattitudinal action leads to attitude change (Wicklund & Brehm, 1976).

Empirical research also supports a distinction between attitudes and intentions. Indeed, there is a vast literature in social psychology on how attitudes and intentions relate to activity. The theory of reasoned action (Ajzen & Fishbein, 1977, 1980), while inadequate as a broad theory of action (Eagly & Chaiken, 1993), works well as a theory of how intentions and attitudes relate to decision making. This theory argues that a behavior (such as a career choice) involves three components. The first is an attitude, which has no direct influence on activity. Instead, attitudes indirectly influence activity by affecting intentions, the second concept. Intentions are simply what the person plans to do. Subjective norms—beliefs about what others think one ought to do—form the third component. Like attitudes, norms only influence activity indirectly through their effects on intentions.

An important assumption of this theory, then, is that attitudes are only one of several predictors of career choice. Simply liking a certain career option does not guarantee consonant behavior. Subjective normative factors—parental expectations, occupational prestige, and cohort and cultural influences—also play a large role in forming intentions. A second key implication is that vocational interests and intentions are causally linked yet conceptually distinct. In the original expressed measured terminology it would be awkward to discuss how one measure of an interest causally influences another measure of the same interest. Yet it is perfectly sensible to discuss how general attitudes influence the formation of specific action intentions. After all, we should expect a person's vocational preferences to impact the professed intent to pursue a given occupation (see Lent et al., 1994). And finally, the intentions are where the action is. Attitudes are significant only inasmuch as they can influence intention formation.

This conception of expressed and measured interests assumes that vocational interests can be equated with attitudes and preferences. As noted above, many theorists take this position (Crites, 1999; Evans, 1971; Lent et al., 1994), although there are some good reasons for questioning whether vocational interests can be equated strictly with attitudes and preferences (Savickas, 1999; Silvia, in press). We can adopt a weaker form, however, without undermining the above analysis. So long as some sort of attitude or preference is a major component of vocational interests, we can reasonably apply an analysis of career choice in terms of attitudes and intentions.

Attitudes, Intentions, and Prediction

In the old expressed/measured framework, we had to grapple with why two measures of the same thing showed disparate predictions. In the new framework, shown in Fig. 3, this problem dissolves. A literature that emerged from the theory of reasoned action involves the concept of "predictor–criterion congruity." A single behavior—such as choosing a career—is a concrete, specific event. Attitudes, in contrast, can vary in specificity. People can have global, general attitudes toward work in general, more specific attitudes toward broad categories of vocations, and ultimately specific attitudes toward highly specific careers. This is significant because correlations are higher when both variables correspond in their levels of specificity: Global attitudes better predict global aggregates of behavior, whereas specific attitudes better predict concrete,

single-instance behavior (Fishbein & Ajzen, 1974). If the attitude is general but the behavior is specific, then the attitude will poorly predict the behavior. So if we want to predict reactions to a single insult from global attitudes toward forgiveness, for example, we would expect low correlations simply because of the disjunction in measurement specificity—and indeed, this is what research finds (McCullough & Worthington, 1999).

Consider the situation posed by vocational interests and intentions. A “measured interest” is a very broad, global measure of vocational preferences representing an aggregate of many items. Career choice is a concrete single-instance behavior. Expressed interests are also very specific; in fact, so specific as to refer directly to the behavior. The theory of reasoned action would predict, given this pattern, that “expressed interests” will always—literally always—better predict career choice simply because of the correspondence in measurement. The theory also makes an additional, converse prediction: “Measured interests” should better predict equally broad variables (like the Big 5 factors) simply because “measured interests” are equally broad. The nature of predictor-criterion specificity, which has been elevated to the status of a measurement principle, is a “basic fact of psychometric life” (Eagly & Chaiken, 1993).

So What Does it All Mean?

When a scientific problem has proved recalcitrant for decades, new ways of approaching the problem are needed. I have suggested that research on attitudes and intentions can inform the problem of why expressed and measured interests differentially predict career choice. The theory of reasoned action suggests two related resolutions. The first is to recognize the ugly truth regarding attitudes and behavior—attitudes, interests, and preferences are only a few of many contributors to decision making and enactment. We should not expect too much from vocational interests; there are also intentions, social norms, and many other social, cultural, and institutional constraints. By redefining “expressed interests” as vocational intentions, we can include both measured and expressed interests into the same predictive model instead of pitting them against each other. We can thus develop multivariate, constructive models using both measures. This implies an area of needed research on how vocational interests influence the development of specific vocational intentions and vice versa. The social-cognitive model proposed by Lent and colleagues (1994) has already taken fruitful steps in this direction. Such questions do not emerge from the old approach.

The second, and related, solution to the problem is to recognize the long-known measurement principles governing the links between predictors and criteria. This resolution suggests that people are asking too much of their interest inventories. It is inconceivable that expressed interests would ever fail to predict career choice better than measured interests. Anything else would violate decades of research on how specific and abstract variables can relate statistically. Even if people are skeptical of the reformulation in terms of “vocational interests” and “vocational intentions,” this measurement point should be acknowledged nonetheless.

Throughout this analysis, I have taken expressed interests to mean vocational intentions. This was based on frequent usages of the term in the literature (see Spokane & Decker, 1999), such as Crites’s (1999) observation that “the typical question used to elicit an expressed interest is, ‘Which occupation do you intend to enter when you leave school?’” (p. 164). As a result, my perspective is most effective when applied to studies and theories that have used intention-based conceptions of expressed interests. Other definitions of an expressed interest are less subject to my criticisms. Super and Crites (1962), for example, propose that interest can be reflected in four different measurement methods. They define *expressed* interest as a “verbal profession of interest in an object, activity, task, or occupation” (p. 378). This broad category includes idiosyncratic statements of preferences, expectations, and fantasies as well as traditional self-report scales of preferences. An expressed interest, in their view, need not be an intention statement or even an idiographic response. *Inventoried* interest differs subtly; it involves verbal professions that are “summed to produce scaled scores on standardized profiles that depict an individual’s vocational interests in reference to some normative group” (Crites, 1999). *Tested* interest refers to the measurement of skills and knowledge relevant to an interest. *Manifest* interest involves actual participation in an interest domain.

I suspect that much confusion could have been averted if researchers had applied these labels more rigorously. For instance, intention measures of “expressed interest” seem to fall into Super and Crites’s “expressed” category, whereas a current college major measure of “expressed interest” would fit better under the “manifest” category. Using these category labels would not explain why the measures show different effects, but it would have helped specify discussion on the topic. Furthermore, their notion of “expressed interest” is so general and heterogeneous that it seems unlikely that people would have sought to compare them against inventoried interests.

The continued use of Super and Crites’s definition of “expressed interest” seems reasonable, so long as intentions are detached from interests. As discussed above, an intention is determined by so many extraintest factors and constraints that it seems productive to consider it a related, yet conceptually distinct, psychological construct. Separating intentions and interests also enables us to look at how they interact and collectively influence vocational choice. It would be awkward, by contrast, to ask about independent and interactive effects of two different measures of the same concept. This scenario highlights the need for future thought devoted to standardized terms for vocational concepts. I would recommend “vocational intention” to refer to what many people (Super and Crites aside) have meant by “expressed interest”; I would use “vocational interest” to cover what most people mean by “measured interest” and what Super and Crites mean by “expressed interest” and “inventoried interest.”¹

CONCLUSION

Vocational psychologists have been grappling with the problem of expressed and measured interests for quite some time. Such long-standing conflicts usually indicate a need for new conceptual perspectives. Based on attitude–behavior research, I have suggested that the old distinction between “expressed” and “measured” interests should be reconsidered. The terms refer to important constructs but obscure their important conceptual differences (see Fig. 3). I have proposed that expressed interests are not actually interests—they are “vocational intentions,” or what career one intends to pursue. Measured interests are simply what is meant by the term “vocational interest.” Intersecting this conception with social-psychological research on intentions, attitudes, and action sheds new light on why expressed interests are better predictors of career choice, although it remains for future work to assess the usefulness of this new perspective.

REFERENCES

- Ajzen, I., & Fishbein, M. (1977). Attitude–behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84, 888–918.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice Hall.
- Allport, G. W. (1961). *Pattern and growth in personality*. New York: Holt, Rinehart, & Winston.
- Biernat, M. R., & Crandall, C. S. (1999). Racial attitudes. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of political attitudes* (pp. 297–411). San Diego, CA: Academic Press.
- Borgen, F. H., & Seling, M. J. (1978). Expressed and inventoried interests revisited: Perspicacity in the person. *Journal of Counseling Psychology*, 25, 536–543.

¹ As an aside, I would not consider the “tested” or “manifest” interest categories to be measures of interest. Tested interest is simply a measure of knowledge. It only indirectly measures level of interest in an area, and it fails to measure the interest of the passionate novice. It thus cannot speak to how interest creates an initial attraction to a domain and sustains the early period of skill development (Silvia, in press). “Manifest interest”—such as one’s current job or major—simply measures behavior, which certainly is determined by many things. Just as some attitude researchers question the utility of defining attitudes as having a “behavioral component” (Eagly & Chaiken, 1993), I feel that whether interest influences career choice should remain an empirical question rather than a definitional issue.

- Campbell, D. T. (1950). The indirect assessment of social attitudes. *Psychological Bulletin*, 47, 15–38.
- Crites, J. O. (1999). Operational definitions of interests. In M. L. Savickas & A. R. Spokane (Eds.), *Vocational interests* (pp. 163–170). Palo Alto, CA: Davies–Black.
- Darley, J. G., & Hagenah, T. (1955). *Vocational interest measurement: Theory and practice*. Minneapolis: Univ. of Minnesota.
- Dolliver, R. H. (1969). Strong Vocational Interest Blank versus expressed vocational interests: A review. *Psychological Bulletin*, 72, 95–107.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt, Brace, Jovanovich.
- Evans, K. M. (1971). *Attitudes and interests in education* (2nd ed.). London: Routledge.
- Fishbein, M., & Ajzen, I. (1974). Attitudes toward objects as predictors of single and multiple behavioral criteria. *Psychological Review*, 81, 59–74.
- Goldman, L. (1995). Comment on Croteau and Slaney. *Career Development Quarterly*, 43, 385–386.
- Griffiths, P. E. (1997). *What emotions really are: The problem of psychological categories*. Chicago: Univ. of Chicago.
- Hartung, P. J. (1999). Interest assessment using card sorts. In M. L. Savickas & A. R. Spokane (Eds.), *Vocational interests* (pp. 235–252). Palo Alto, CA: Davies–Black.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Lamiell, J. T. (1981). Toward an idiographic theory of personality. *American Psychologist*, 36, 276–287.
- Lamiell, J. T. (1987). *The psychology of personality: An epistemological inquiry*. New York: Columbia Univ. Press.
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45, 79–122.
- McCullough, M. E., & Worthington, E. L., Jr. (1999). Religion and the forgiving personality. *Journal of Personality*, 67, 1141–1164.
- Savickas, M. L. (1999). The psychology of interests. In M. L. Savickas & A. R. Spokane (Eds.), *Vocational interests* (pp. 19–56). Palo Alto, CA: Davies–Black.
- Silvia, P. J. (in press). Interest and interests: The psychology of constructive capriciousness. *Review of General Psychology*.
- Slaney, R. B., & Croteau, J. M. (1995). Response to Goldman. *Career Development Quarterly*, 43, 387–389.
- Spokane, A. R., & Decker, A. R. (1999). Expressed and measured interests. In M. L. Savickas & A. R. Spokane (Eds.), *Vocational interests* (pp. 211–233). Palo Alto, CA: Davies–Black.
- Sterelny, K., & Griffiths, P. E. (1999). *Sex and death: An introduction to the philosophy of biology*. Chicago: Chicago Univ. Press.
- Super, D. E., & Crites, J. O. (1962). *Appraising vocational fitness* (2nd ed.). New York: Harper & Bros.
- Wicklund, R. A., & Brehm, J. W. (1976). *Perspectives on cognitive dissonance*. Hillsdale, NJ: Erlbaum.
- Received August 28, 2000; published online June 1, 2001